

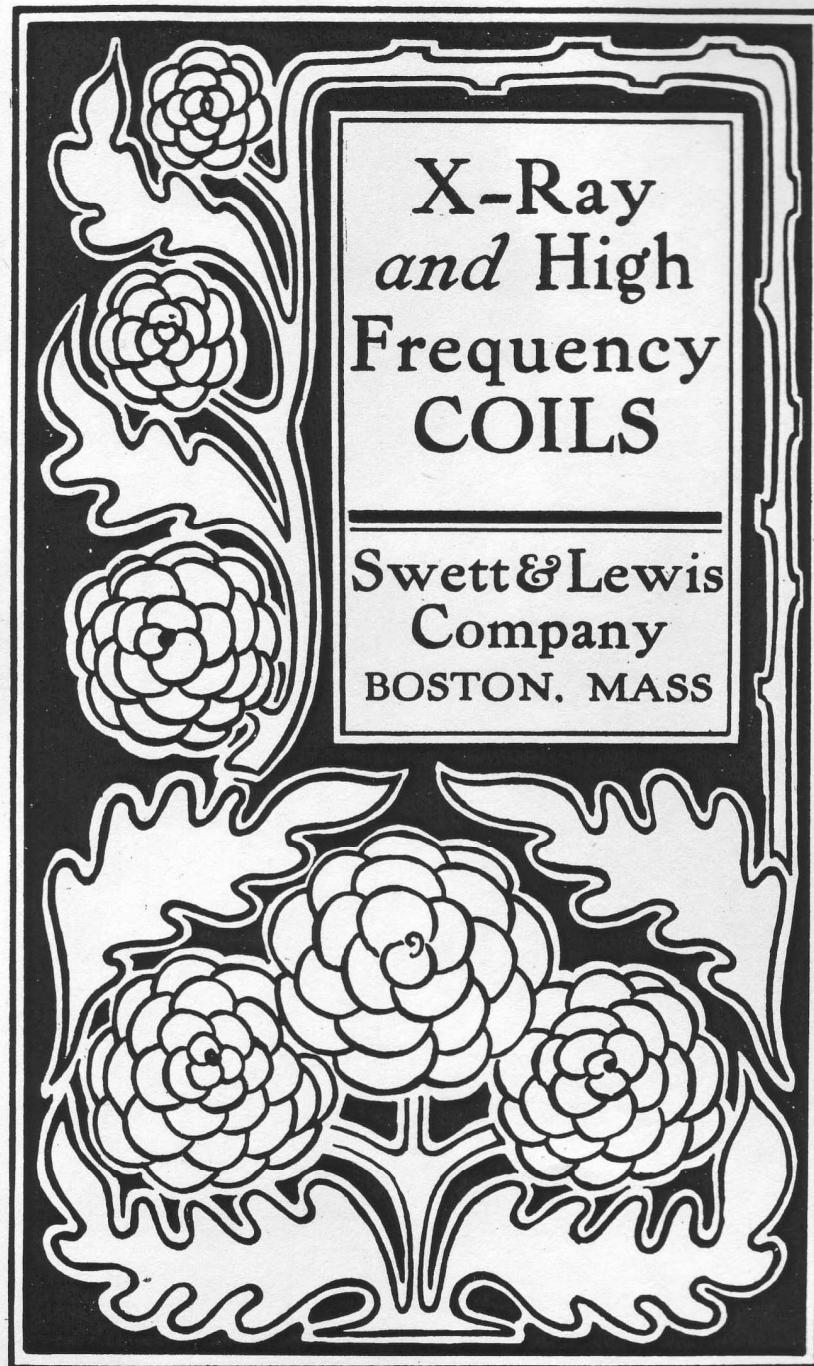
Bulletin
Thirty-seven

SWETT AND LEWIS
COMPANY
High Frequency Coils
18 BOYLSTON STREET
BOSTON
S&L

Bulletin
Thirty-seven

X-Ray
and High
Frequency
COILS

Swett & Lewis
Company
BOSTON, MASS



The Choice of a Coil



WE REALIZE that many of our customers live at too great a distance to investigate personally the merits of each coil shown here and this is our apology for these few words. We will endeavor to give briefly the relative merits of the various coils listed herewith.

The JACKSON COIL

This is designed to take the place of a static machine, and to give the breeze discharge or effluve with the various high frequency discharges, also X-Ray work that will be at least equal to that from a static.

The CYCLONE CABINET COIL and DESK COIL

These coils are designed to do heavy X-Ray work, thermo-faradic and vacuum electrode work with a minimum amount of attention. The crown breeze cannot be obtained.

The CYCLONE PORTABLE COIL

This coil was designed for bedside work and has the same power as the other two styles, with the added advantage of being portable and extremely simple.

The KINRAIDE COIL

Has been on the market so long and is so well known that it does not require further explanation than that given on pages 26 and 27.

The MILLIAMPEREMETER

Shown on page 33, should not be overlooked.

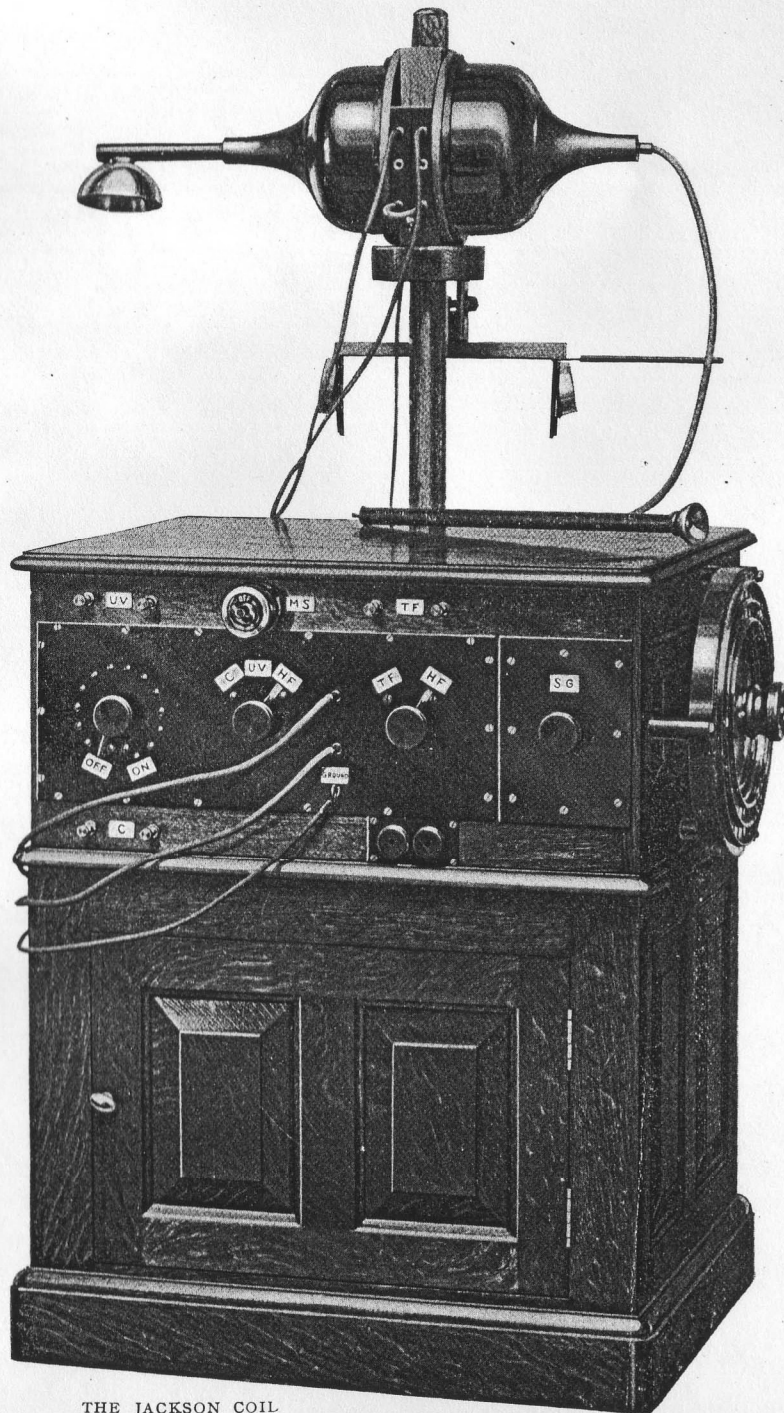
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TO meet the demand for a High Frequency Coil from which the breeze current, similar to that from a static, can be obtained, this Coil has been devised. It is the result of several years' experimental work on the part of the inventors, Messrs. Kinraide and Jackson.

The Jackson Coil has no moving parts and the primary current is not interrupted. The fact of not having to deal with a complicated, dirty interrupter that always needs tinkering and petting will be appreciated by the busy physician. No interrupter has yet been made that will successfully handle currents of voltages commonly used in lighting service, without annoyance. Some possess one bad feature and some another, but those who have used several interrupters will agree that there are serious drawbacks to every one, and the expense of maintenance is not to be disregarded. It is a disagreeable task to clean an interrupter using mercury or acid, and even the replacing of platinum points is a serious expense. In this Coil there is nothing to wear out or overheat, and when adjusted to give a certain current it will run for hours without any variation or attention whatever. As shown in the illustration, the apparatus is enclosed in a very handsome quartered oak cabinet resting on the floor, finished on all four sides, which makes it an ornament to any office. The top of the cabinet is perfectly plain. The switches and regulating devices are placed where they will be readily accessible, and everything is so constructed that no metal parts whatever project from the cabinet, making it impossible to receive an accidental shock. There is no delicate mechanism exposed. The Coil can easily be kept in the very best shape with a minimum amount of labor. All the working parts of the coil proper are in the upper part of the cabinet, the top of which can readily be removed.

The Coil is designed to run on an alternating circuit, and when a direct current only is available, a rotary converter is placed in the base of the cabinet and controlled from the outside. The converter is of the best design, of ample proportions, and capable of running for hours without attention, so that the apparatus is equally



THE JACKSON COIL

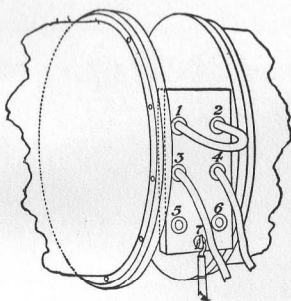
efficient on either circuit. When the Coil is run on the alternating service, the lower part of the cabinet is not needed, and may be used for the storage of tubes and other paraphernalia. If the direct current should be given in the daytime and alternating at night, or vice versa, a small switch would enable the Coil to be run at all times.

A new feature of the Jackson Coil is the spark gap (see cut), which is the fundamental part of every high frequency or oscillating system. This has been developed on an entirely new plan and does not need any attention whatever. It is entirely out of sight and does not annoy the operator by light or noise, as in some forms of apparatus. It is placed in a small drawer or slide, so that it is instantly accessible, and if removed cannot be replaced in any but the right way. It is the result of patient research and countless experiments, that were discontinued only after it was deemed certain that no further improvement could possibly be made. It is easily adjustable and the sparks flow across with absolute steadiness in any position. An entirely new method of cooling the electrodes is used, which is perfect in its action and requires no water or other outside aid. The sparking takes place between two prisms of ample length, which will last during months of continuous hard work. Each prism has four edges which may be used, and it is but the work of a moment to change them or put in new ones, which cost but little.

The transformer used is of ample size to deliver a large current at a very high voltage, and is capable of standing the entire current direct from the street. A rheostat is used for purposes of regulation only. The condenser is simple, reliable, and will give no trouble.

In view of the fact that currents of extreme high frequency and voltage cannot be transmitted through even a heavily insulated conductor for a few feet without great loss, it has been deemed advisable to bring the final transformer, in the form of a pair of secondaries, close to the patient, instead of attempting to bring the patient up to the cabinet. These secondaries are mounted upon an attractive floor stand so that they may be readily adjusted at any convenient height, and are connected by means of a flexible cable to the cabinet. In the illustration of the Coil, this stand is shown directly behind the cabinet. The base is large and heavy enough to preclude the possibility of being overbalanced. By this arrangement, a very high frequency current of great volume may be delivered to the person of the patient with small loss. The current required to excite these secondaries is of such a character as to flow readily through a cable of moderate length, which

can be handled with perfect safety, even when delivering the full output. A unique tube holder, capable of every adjustment, may be attached to the secondary stand at will, making an unexcelled device for X-Ray work. The tube holder may, when not in use, be turned down out of the way, as shown in the cut of the coil.



The secondaries proper are of the same design as those in the Kinraide Coil, a thin disc of fine wire embedded in an insulating compound and placed inside of a protecting case. This arrangement, with a ground wire, gives perfect protection from a breakdown or an accident. The full discharge can be grounded with no strain on the insulation, and the ground between the two secondaries does not diminish or interfere with the application of both secondaries to the patient. The multiple primaries in each of the secondaries are a new feature. These primaries are so arranged that, by means of a very simple switching device, three different combinations of primary are obtained as applied to each secondary coil, so that either secondary may be used independently or both together with any combination; thus giving a variety of effects with one instrument—never before approached—combined with the utmost simplicity. The current of the highest frequency is obtained from the primary of the fewest turns, combined with the shortest length of the spark gap. All of these combinations can be varied at will by means of a rheostat of fifty steps and the latest pattern, so that infinite delicacy of adjustment may be obtained. The current consumption of the Coil is small. Unlike most pieces of apparatus which take but a small amount of current to excite, the quantity of high frequency current generated is large, and the apparatus is of a high degree of efficiency.

This Coil may be so manipulated as to produce a surprising variety in the discharge. A soft blue breeze can be obtained of long, feathery, fern-like, positive discharge, which will be given off in every direction. These are soft and attractive in appearance. Fierce spark rays may be generated, interspersed with pink, snaky flames. At times, the discharge from the secondary may be entirely positive and can be readily recognized. At other times, a purely negative discharge is given from the ball, each point of discharge being surmounted by a positive discharge drawn in from the surrounding air. The effects of positive or negative discharge produce quite different sensations. These changes are due to the various frequencies readily obtained by the unique spark gap and possible with no other type of apparatus known.

Users of high frequency apparatus have demonstrated that some diseases yield more readily to currents of low frequency, some to currents of moderate, and still others to extremely high frequency. Owing to the great flexibility of this apparatus, it will be found to meet the requirements of all. The application of the current by means of vacuum electrodes is extremely easy, and the same effect can always be repeated by the same adjustments. New designs in metallic electrodes have been devised, which will give a splendid high frequency spray or spark at the end of a flexible cable. The brush discharge from the crown electrode is long and of the utmost fineness and smoothness, and of such a character that great latitude can be allowed in the treatment without accidentally sparking the patient. This point alone is of great value.

The whole effort of the designers of this Coil has been to produce an easily manipulated apparatus, giving a wide range of effects, any one of which can be repeated at any time by the same adjustments, which are easily comprehended and remembered. Although the appearance of the cabinet is simple and convenient, yet the amount and variety of hard work that can be obtained from it at any time will put far in the background the most powerful static machine, the large Rhumkorff Coil with its cumbersome high frequency attachment, and any ultra violet apparatus on the market, to say nothing of the cautery.

We do not believe it is possible by any other means of construction to produce a Coil capable of giving such enormous voltages and frequencies without quickly destroying itself. The Coil has been given the most exhaustive and thorough tests, and has met every requirement imposed upon it by the most exacting.

We have no hesitation in saying that there is no apparatus more flexible or under more perfect control for operating an X-Ray tube, or for high frequency work. A Geissler tube can be excited so that it will glow to any degree of brilliancy, and this light will remain absolutely steady as long as required. The Coil will deliver such an amount of current as to be beyond the capacity of most X-Ray tubes, or so little that the smallest tube can be made to barely glow. In X-Ray practice, by means of the spark gap alone, the bones of the hand may be seen as almost transparent or the whole hand itself may be made black, and this without change of vacuum in the tube.

THERMO-FARADIC

A unique feature, which we believe is found in this Coil only, is a Thermo-Faradic attachment; which, briefly stated, is a derived circuit from a closed coil of a certain proportion. The current is

applied to the patient by means of either the well-known sponge electrodes or metallic handles, and can be widely varied by means of the spark gap and rheostat from a current markedly faradic in its characteristics and possessing great smoothness, to a current having no faradic effects and producing within the body a sensation of great heat; and that this is real heat locally generated is demonstrated by actual heating of the sponges, and by the sensations of the patient. If the metal electrodes are brought in close proximity to each other, a small but brilliant arc is produced of such intense heat that actual welding of copper (on a small scale) may be made possible. If two strips of metal are attached to this Coil and are placed in a little water, it will soon become very hot. By placing both of the electrodes on or near the diseased area, the effect will be strictly local; or by separation, widely diffused. Sufficient current may be taken in this manner without discomfort to bring to full brilliancy a sixteen candle power lamp, when placed in the same circuit with the patient. These currents are of true high frequency, oscillating millions of times per second, and are a modification of the D'Arsonval currents. By the use of the Thermo-Faradic attachment, excellent results are obtained in the treatment of inflammation, neuralgia, tubercular ulcers, sciatica and neurasthenia. The mode of operation is described in Bulletin 36.

CAUTERY EFFECTS

A powerful cautery transformer may be incorporated in the cabinet at a slight additional cost. The transformer gives a very large quantity of current at so low a voltage that diagnostic lamps or cautery knives may be used with perfect safety. The control is perfect and the graduations are fine. This transformer is entirely separate from and has no connection with the high frequency Coil, and there is absolutely no chance of getting a high voltage through it.

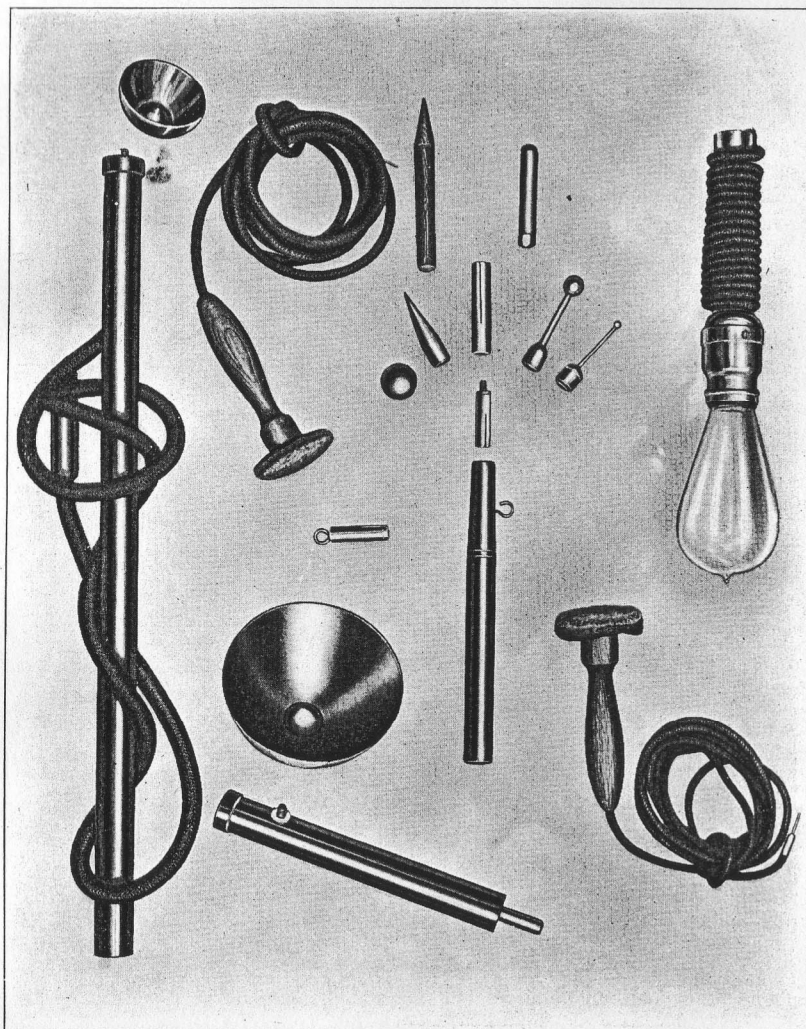
ULTRA VIOLET ATTACHMENT

If desired, the Ultra described on page 28 may be incorporated into this cabinet, making a simple, serviceable, and powerful Ultra Violet equipment.

A very simple switching device is supplied and the lamp proper may be attached in place of the tube stand.

GUARANTEE

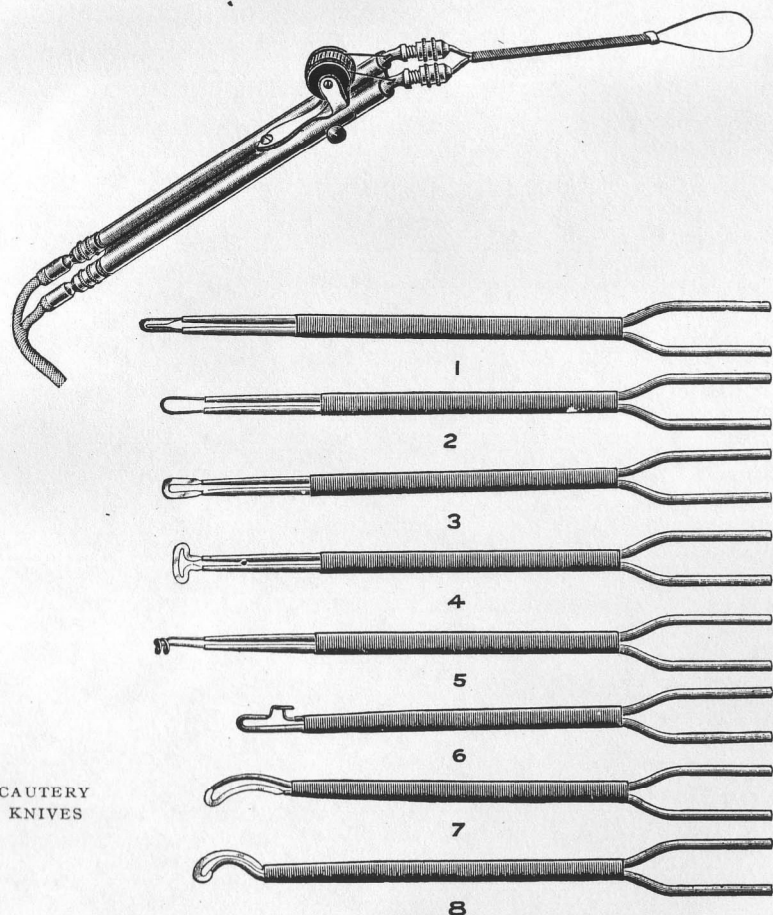
Each Coil guaranteed against any defect in workmanship or material, or against burn-out not caused by improper usage, for one year from date of shipment.



ELECTRODES FOR JACKSON COIL

CODE WORDS

52 volts, 7,200 Alternations	Koperig
104 volts, 7,200 Alternations	Kopernikus
110 volts, 7,200 Alternations	Koperkies
52 volts, 16,000 Alternations	Koperkleur
110 volts, 16,000 Alternations	Kopermolen
110 volts, 15,000 Alternations	Kopermunt
110 volts, Direct Current	Intardatum
220 volts, Direct Current	Intardetis
235 volts, Direct Current	Intarlando
250 volts, Direct Current	Intarlare
500 volts, Direct Current	Intarlato



CAUTERY
KNIVES

PRICE LIST

JACKSON HIGH FREQUENCY COIL, to run on any alternating current from 52 to 250 volts and any commercial cycle, complete as shown in cut, page 4, including electrodes, stand and tube holder Price, \$350.00
Code word, Heidengeld.

JACKSON HIGH FREQUENCY COIL for 110 volts direct current, as above, including motor generator Price, \$420.00
Code word, Headledge.

JACKSON HIGH FREQUENCY COIL for 220 volts direct current, as above, including motor generator Price, \$440.00
Code word, Heenkomen.

MOTOR GENERATOR including starting box, for 110 volts direct current, when sold without coil Price, \$70.00
Code word, Hervatting.

MOTOR GENERATOR including starting box, for 220 volts direct current, when sold without coil Price, \$90.00
Code word, Hervimos.

MOTOR GENERATOR including starting box, for 500 volts direct current, when sold without coil Price on application
Code word, Hervento.

CAUTERY TRANSFORMER, additional Price, \$25.00
Code word, Curtelasse.

This transformer put up in fine case, to use separately from coil, \$20.00.
Code word, Curtinho.

CAUTERY HANDLE with snare Price, \$6.00
Code word, Curtem.

CAUTERY HANDLE, plain Price, \$1.50
Code word, Curtiamos.

CAUTERY CORDS, per pair Price, \$1.50
Code word, Curtidos.

CAUTERY KNIVES, No. 1 to No. 8 Price, each \$0.75
See illustration on page 10.
Code word for set of eight, Curtilage.

ULTRA VIOLET ATTACHMENT, including lamp, cable and arm for tube stand Price, \$60.00
Code word, Conjunctum.

COMPRESSOR with fine quartz lens Price, \$5.00
Code word, Condate.

SET OF METALLIC HIGH FREQUENCY ELECTRODES, when sold separately Price, \$10.00
Code word, Hervencia.

SET OF SIX GLASS VACUUM ELECTRODES with handle Price, \$5.00
Code word, Koukarien.

SPECIAL H. F. X-RAY TUBE, as shown on page 6. Price, \$14.00
Code word, Depor.

MINERAL TUBES, to be used as electrodes, 20 inches long, very brilliant.
Code word, Denuam. Price, each \$3.00

Swett and Lewis Company

GEISSLER ELECTRODES, No. 17 and No. 18 filled with liquid, very highly colored. Price, each \$2.00. Special set of six assorted colors,

Price, \$10.00

Code word, No. 17, Kourgan; No. 18, Kourilien; set of six, Kozel.

WILLEMITE TUBE, small X-Ray tube with piece of willemite for anode, very handsome and brilliant

Code word, Demplos. Price, \$6.00

BLOCK TIN for X-Ray shields, per pound, \$0.25. A strip thirty-six inches long by fifteen inches wide makes a pound.

Code word, Blemmyer.

LIST OF OUTFITS

In connection with any of the following outfits, a Milliamperemeter is recommended. This may be included at an additional cost of \$30.00.

These outfits are given as samples only, and may be changed to suit the convenience of the purchaser.

OUTFIT NO. 60. For the alternating current.

Code word, Handlohn.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
One H. F. X-Ray Tube	14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00

\$379.00

OUTFIT NO. 61. For the 110 volts direct current.

Code word, Handlubben.

Same as enumerated in Outfit No. 60	\$379.00
One Motor Generator, complete, fitted in cabinet	70.00

\$449.00

For 220 volts, add to above, \$20.00

OUTFIT NO. 62. For the alternating current.

Code word, Handlung.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00
One No. 17 and one No. 18 Electrode	4.00
Four pounds Block Tin	1.00

\$398.00

OUTFIT NO. 63. For the 110 volts direct current.

Code word, Handmagd.

Same as enumerated in Outfit No. 62	\$398.00
Motor Generator, complete and fitted in cabinet	70.00

For 220 volts, add to above, \$20.00.

\$468.00

Swett and Lewis Company

OUTFIT NO. 64. For the alternating current.

Code word, Handmaiden.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 6 x 8 Platinum Barium Cyanide Fluoroscope	16.00
One set of Vacuum Electrodes with Handle	5.00
One set of six No. 17 and No. 18 Electrodes	10.00
One roll of Block Tin, 10 pounds	2.50
Two Mineral Tubes	6.00
One Willemite Tube	5.00

\$422.50

OUTFIT NO. 65. For the 110 volts direct current.

Code word, Handmandel.

Same as enumerated in Outfit No. 64	\$422.50
Motor Generator, complete and fitted in cabinet	70.00

For 220 volts, add to above, \$20.00

\$492.50

OUTFIT NO. 66. For the alternating current.

Code word, Handmesser.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00
One set of six No. 17 and No. 18 Electrodes	10.00
One roll of Block Tin, 10 pounds	2.50
Two Mineral Tubes	6.00
One Willemite Tube	6.00
Cautery Attachment	25.00
One Handle and Snare	6.00
Eight Cautery Knives	6.00
Ultra Violet Attachment	60.00
One Quartz Compressor	5.00
One pair Cautery Cords	1.50

\$521.00

OUTFIT NO. 67. For the direct current.

Code word, Handmolen.

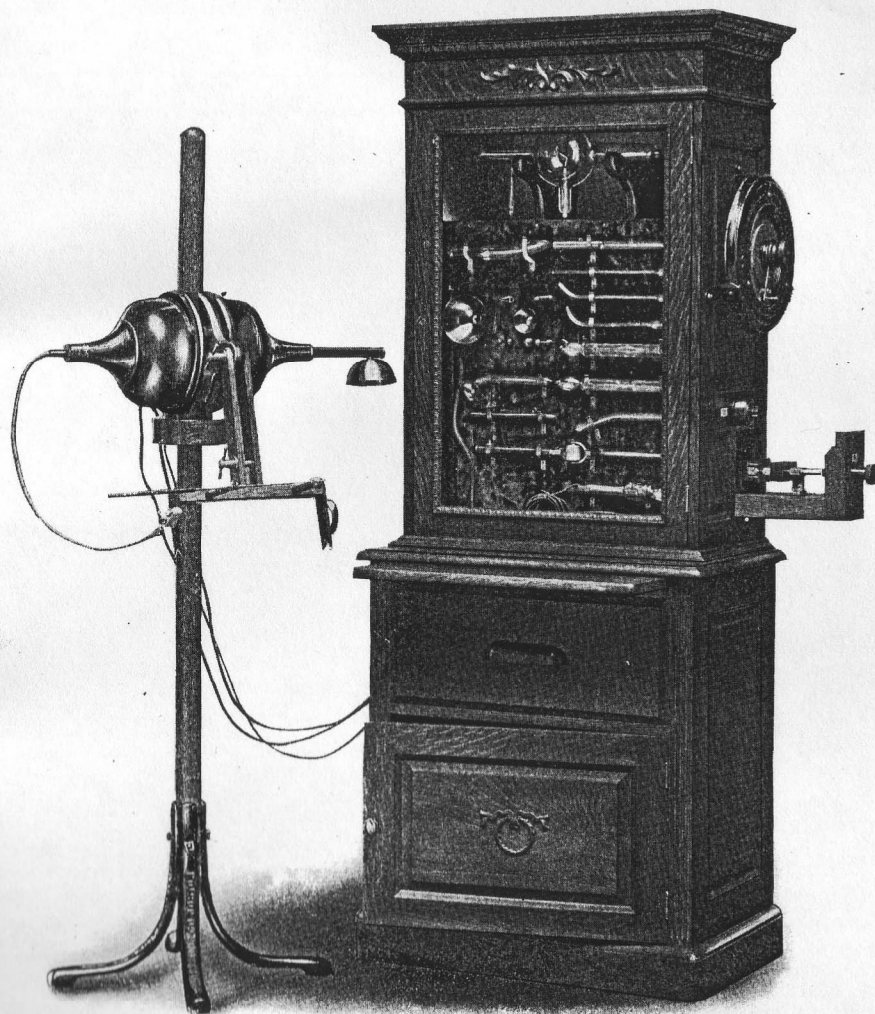
Same as enumerated in Outfit No. 66	\$521.00
One Motor Generator complete, fitted in cabinet	70.00

For 220 volts, add to above, \$20.00.

\$591.00

If the Ultra Violet Attachment is desired in addition to any of the above outfits, except No. 66 and No. 67, where it is included, add \$60.00, and for Cautery Transformer add \$25.00, also price of handle, knives and cords as desired. See page 11.

In ordering, use outfit number or code word. Be sure to specify the current on which the coil is to be used, and if alternating current, the number of alternations as well as the voltage. For list of code words for the various currents, see page 10. Example: if you wish to order outfit No. 62, coil to be used on a current of 104 volts, 7200 alternations, to be shipped by express, wire as follows:—Express Handlung Kopernikus.



THE JACKSON SPECIAL COIL

The Jackson Special Coil

THIS cabinet was designed especially for those who wish to make an elaborate display in their office with a minimum of floor space. The wood work is of beautifully quartered oak, finely finished. The cabinet is about six and one-half feet high and well proportioned. The door or doors forming the front of the top section of the cabinet are of heavy bevelled plate glass.

As shown in the cut, the electrodes are mounted on a fine piece of velvet and make a very rich and handsome display. This arrangement makes them all easily accessible and protects them from injury. Brackets for two tubes are provided at the top.

The cabinet is built in two pieces as a matter of convenience in shipping and handling. In the lower section a sliding shelf is provided which will be found of great convenience. Below this is a large and deep drawer, so that an extra tube and fluoroscope may be placed therein. At the bottom of the cabinet is a door, back of which is a space sufficiently large to take a motor generator, if the coil is to be run on direct current, or which may be used for storage if the alternating current is used.

As shown in the cut, the spark gap, rheostat, and starting switch are located on the side of the cabinet out of the way but easy of access. The same design of portable secondaries is used as in the regular Jackson Coil, for only by this method can the entire output of the coil be delivered to the patient without leakage. It is a well-known fact that currents of extremely high frequency, as generated by this Coil, cannot be carried for any distance without great loss. The treatment by these portable secondaries is an important feature embodied in no other coil and fully covered by our patents.

All currents, High Frequency, Sinusoidal, X-Ray, Thermo-Paradic, and D'Arsonval, which are obtainable from the regular Jackson Coil, may be procured from the Jackson Special Coil. The ultra violet and cautery attachments cannot be included.

Swett and Lewis Company

PRICE LIST

JACKSON SPECIAL COIL, shown in cut, including all electrodes, cords, and tube stand, for alternating current Price, \$380.00
Code word, Kaiserhut.

JACKSON SPECIAL COIL for 110 volts, direct current, as above, including motor generator Price, \$450.00
Code word, Kaiserin.

JACKSON SPECIAL COIL for 220 volts, direct current, as above, including motor generator Price, \$470.00
Code word, Kaiserling.

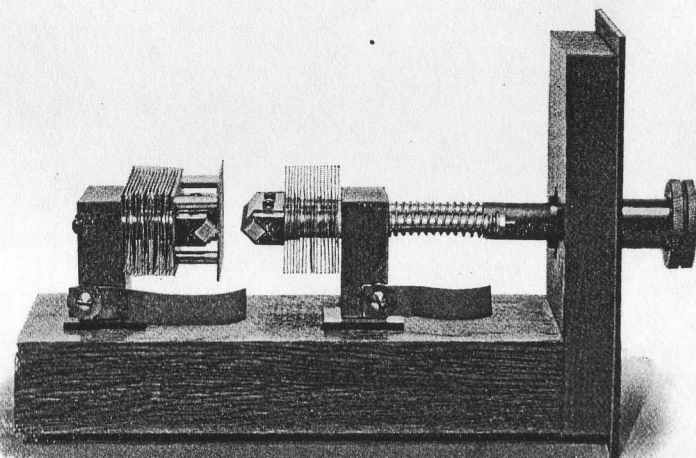
OUTFIT NO. 68. For the alternating current.
Code word, Kalomel.

Jackson Special Coil, as shown in cut	\$380.00
One H. F. X-Ray Tube	14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
Four pounds Block Tin	1.00
	<hr/> \$405.00

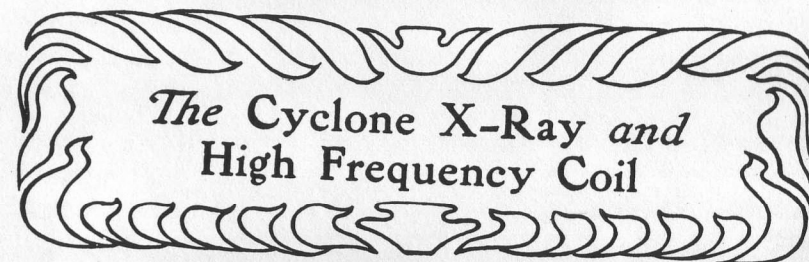
OUTFIT NO. 69. For the 110 volt direct current.
Code word, Kalong.

Same as in Outfit 68	\$405.00
Motor Generator fitted in cabinet	70.00
	<hr/> \$475.00

For 220 volt, direct current, add to the above \$20.00.



THE SPARK GAP



WE take pleasure in announcing to our friends of the medical profession the completion of a perfect X-Ray and High Frequency Coil.

This Coil, combining as it does all the best features of the Kinraide Coil with the spark gap and thermofaradic attachment of the Jackson Coil, is, we confidently believe, the best for all-round work ever brought to your attention.

The cuts on pages 18, 20, 22, show the Coil in its various forms. The first, or floor type, is designed strictly for office use. The cabinet is of selected quartered oak, well finished. In the base are three drawers, two large and one small. The large ones are arranged to take tubes, fluoroscopes, etc., and the small one to take vacuum electrodes, cords, and the smaller parts.

All switches and connections are conveniently placed on the front of the cabinet and are flush with the woodwork, so there is no chance of breakage or accidental shock. The spark gap is perfectly accessible, very easy of adjustment, and will run for hours without attention.

The tube stand is very conveniently arranged. The upright is attached to the side of the cabinet and the arm for holding the tube may be used in connection with the floor stand, if desired.

The whole outfit may be mounted on castors and easily moved about the office or hospital.

The Cyclone Desk Coil is really the top section described in the foregoing and is intended for use on a table or desk.

By referring to the cut, you will observe that the Portable Coil may be closed so as to make a very compact case, the dimensions being eight inches wide, ten inches high, twenty-one inches long, and may be carried in a street car or other conveyance. The tube stand, discharge rods, etc., may also be placed inside the case. A strap is provided for convenience in carrying. The case itself is made of selected hard wood, beautifully finished, and very ornamental. It is so constructed that the top section cannot be acci-



THE CYCLONE CABINET COIL

dentally displaced. To assemble, it is necessary only to lift off the top of the case and invert it.

As will be seen, each coil is complete in itself, and to operate it is necessary only to connect to the lamp socket by means of a cord and plug. The above coils differ only in the method of mounting. The winding, general construction and effects are the same in each case. The efficiency is very high, the volume of current given large, and the reliability absolute. They may be run continuously for hours without stopping, adjusting, or overheating.

THE SPARK GAP

The Spark Gap is a modification of the one which has been so heartily endorsed by the users of the Jackson Coil. This gap will run indefinitely without any attention whatever. It is adjusted by turning a screw on the outside of the case. There is no appreciable noise or light to annoy a sensitive patient. To quote from a user of one of these gaps, "It is perfect, and gives absolutely no trouble." The regulation is excellent, the mechanism is simple and impossible to get out of order. This sounds like perfection, but it is an absolute fact which will be proved by use in each case.

REGULATION

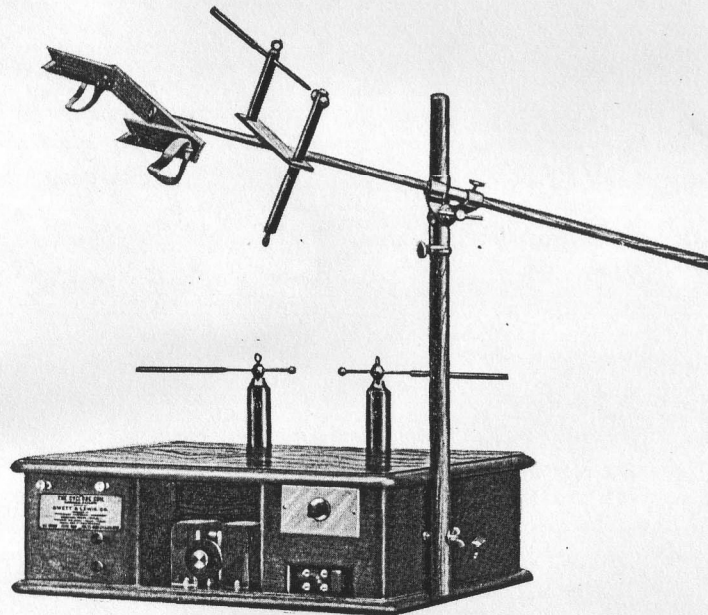
To attach the coil to the electric-light current, screw the plug on the end of the cord into the lamp socket, and slip the connector over the proper pair of pins designed for it. It will be observed that there are three sets of these. When the first set is used, the output of the coil is small and excellently adapted for vacuum electrode work. Great range is possible, for by means of the spark gap any desired effect may be obtained in the electrode from very faint illumination to the most brilliant and powerful. No rheostat is required.

X-RAY

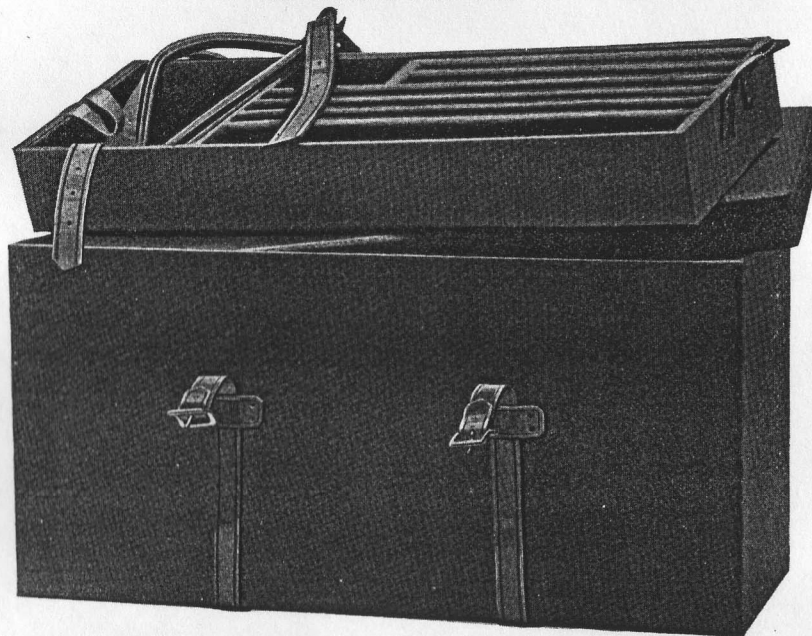
The second set of pins is designed to give more power, and may be used for light X-Ray work where high penetration is not desired, for treating diseases of the skin, etc., also for operating thermofaradic. Here the same range is procurable.

The third set of pins is used for the heaviest X-Ray work. Too much cannot be said of this. The fluoroscopic effects are fine, the penetration and definition are unexcelled. Pictures may be made in exceedingly short time.

The tube stand is ingeniously arranged. It may be slipped



THE CYCLONE DESK COIL



CARRYING CASE FOR TUBES, ETC.

into position instantly, and is capable of all necessary adjustments. A spark gap device for lowering the vacuum in the X-Ray tube is also provided.

It is our belief that these coils will fill a long-felt want, giving as they do the various X-Ray and high frequency currents hitherto obtainable only in large and expensive apparatus. The consumption of electricity is small, therefore the cost of running is very light.

The coils are designed to run from the alternating current exclusively. When only the direct current can be obtained, a rotary converter may be furnished to supply the alternating current. For cost, see price list.

PRICE LIST

THE CYCLONE COIL, Floor Type, including tube stand and connecting cords, fitted to run on any alternating current Price, \$210.00
Code word, Gloriation.

THE CYCLONE COIL, Desk Type, including tube stand and connecting cords, fitted to run on any alternating current Price, \$185.00
Code word, Gloriavamo.

THE CYCLONE COIL, Portable Type, including tube stand and connecting cords, fitted to run on any alternating current Price, \$185.00
Code word, Glorificar.

ROTARY CONVERTER for changing the 110 volt direct current to alternating Price, \$70.00
Code word, Hervatting.

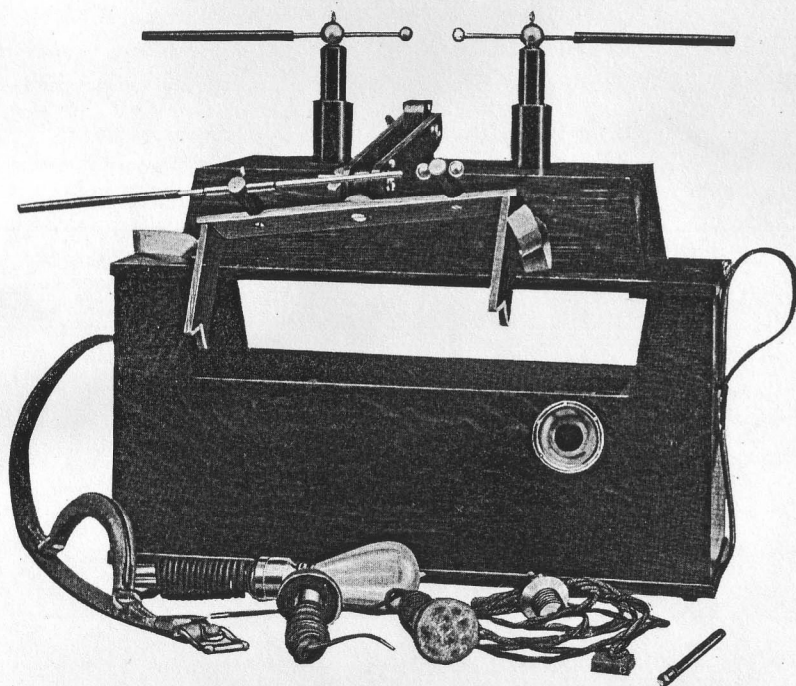
ROTARY CONVERTER for changing the 220 volt direct current to alternating Price, \$90.00
Code word, Hervimos.

LIST OF OUTFITS

OUTFIT NO. 70. For the alternating current.
Code word, Kaaskamer.
The Cyclone Coil, Floor Type, including tube stand \$210.00
One H. F. X-Ray Tube 14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope 10.00
One set of Vacuum Electrodes 5.00
\$239.00

OUTFIT NO. 71. For 110 volts, direct current.
Code word, Kaaskoek.
Same as enumerated in Outfit No. 70 \$239.00
Rotary Converter 70.00
\$309.00

For 220 volts, add \$20.00 to above.



THE CYCLONE PORTABLE COIL — OPEN



THE CYCLONE PORTABLE COIL — CLOSED

Swett and Lewis Company

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twenty-three

OUTFIT NO. 72. For the alternating current.

Code word, Kaaskooper.

The Cyclone Coil, Floor Type, including tube stand	\$210.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes	5.00
Four pounds X-Ray Foil	1.00
One No. 17 and one No. 18 Electrode	2.00

\$256.00

OUTFIT NO. 73. For 110 volts, direct current.

Code word, Kaaskorf.

Same as enumerated in Outfit No. 72	\$256.00
Rotary Converter	70.00

\$326.00

For 220 volts, add \$20.00 to above.

OUTFIT NO. 74. For the alternating current.

Code word, Kaasleb.

The Cyclone Coil, Floor Type, including tube stand	\$210.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
Four pounds X-Ray Foil	1.00
One set of six No. 17 and No. 18 Electrodes	10.00
One set of Vacuum Electrodes	5.00
Two Mineral Tubes	6.00
One High Frequency Milliamperemeter	30.00
Base and Standard of Floor Stand	5.00

\$305.00

OUTFIT NO. 75. For 110 volts, direct current.

Code word, Kaasmaden.

Same as enumerated in Outfit No. 74	\$305.00
Rotary Converter	70.00

\$375.00

For 220 volts, add \$20.00 to above.

OUTFIT NO. 76. For the alternating current.

Code word, Rhodanicum.

The Cyclone Coil, Desk Type, including tube stand	\$185.00
One H. F. X-Ray Tube	14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes	5.00

\$214.00

OUTFIT NO. 77. For 110 volts, direct current.

Code word, Rhodanthos.

Same as enumerated in Outfit No. 72	\$214.00
Rotary Converter	70.00

\$284.00

For 220 volts, add \$20.00 to above.

Swett and Lewis Company

OUTFIT NO. 78. For the alternating current.
Code word, Rhodanusia.

The Cyclone Coil, Desk Type, including tube stand	\$185.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes	5.00
Four pounds X-Ray Foil	1.00
One No. 17 and one No. 18 Electrode	4.00
	<hr/>
	\$233.00

OUTFIT NO. 79. For 110 volts, direct current.
Code word, Rhodees.

Same as enumerated in Outfit No. 78	\$233.00
Rotary Converter	70.00
	<hr/>
	\$303.00

For 220 volts, add \$20.00 to above.

OUTFIT NO. 80. For the alternating current.
Code word, Rhodensium.

The Cyclone Coil, Desk Type, including tube stand	\$185.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
Four pounds X-Ray Foil	1.00
One set of six No. 17 and No. 18 Electrodes	10.00
One set of Vacuum Electrodes	5.00
Two Mineral Tubes	6.00
One High Frequency Milliamperemeter	30.00
Base and Standard of Floor Stand	5.00
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	\$280.00

OUTFIT NO. 81. For 110 volts, direct current.
Code word, Rhodiacos.

Same as enumerated in Outfit No. 80	\$280.00
Rotary Converter	70.00
	<hr/>
	\$350.00

For 220 volts, add \$20.00 to above.

OUTFIT NO. 90. For the alternating current.
Code word, Krent.

The Cyclone Coil, Portable Type, including tube stand	\$185.00
One H. F. X-Ray Tube	14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of six Vacuum Electrodes	5.00
Four pounds X-Ray Foil	1.00
	<hr/>
	\$215.00

Swett and Lewis Company

OUTFIT NO. 91. For the alternating current.
Code word, Krepp.

The Cyclone Coil, Portable Type, including tube stand	\$185.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of six Vacuum Electrodes	5.00
Eight pounds X-Ray Foil	2.00
One set of six Electrodes, No. 17 and No. 18	10.00
One Carrying Case for tubes and electrodes	10.00
	<hr/>
	\$250.00

OUTFIT NO. 92. For the alternating current.
Code word, Kresse.

The Cyclone Coil, Portable Type, including tube stand	\$185.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of six Vacuum Electrodes	5.00
Four pounds X-Ray Foil	1.00
One No. 17 and one No. 18 Electrode	4.00
Two Mineral Tubes	6.00
One High Frequency Milliamperemeter	30.00
One Carrying Case for tube and electrodes	10.00
One Floor Tube Stand	10.00
	<hr/>
	\$289.00

These prices include the necessary connecting cords.

A nicely finished Carrying Case may be furnished for transporting X-Ray tube, electrodes, etc. Price, \$10.00
Code word, Bisam.

To any of the above outfits may be added the base and standard of the Floor Stand, shown on page 32, to which the Tube Stand furnished with each coil may be attached, for \$5.00.
Code word, Beffen.

If the direct current only is available, add to the above prices the cost of the rotary converter.



Books

Radiotherapy, Phototherapy and High Frequency Currents — Allen	\$4.50
Radiotherapy and its Application to Skin Diseases — Belot	4.50
Currents of High Potential of High and Other Frequencies — Snow	2.50
Conservative Gynecology and Electro-Therapeutics — Massey	4.00
Static Electricity — Snow	3.00
Light Energy — Cleaves	5.00
Medical and Surgical Electricity — Rockwell	5.00
Electro-Therapeutical Practice — Neiswanger	2.50
Elements of General Radiotherapy — Freund	5.00
Vibratory Stimulation — Pilgrim	1.50
Mechanical Vibration Therapy — Snow	2.50

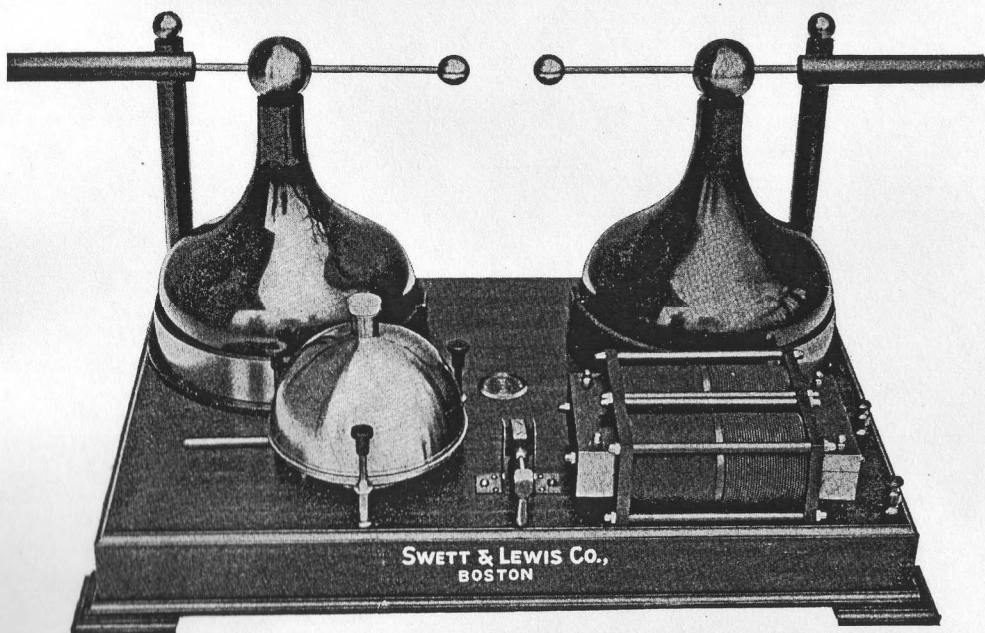
The Kinraide Coil

The Kinraide Coil is too well known to require an extended description.

Briefly, the Coil is of the high frequency type, is designed to run either on the direct or alternating current, is simple, substantial and reliable.

Owing to the peculiar method of construction, it is impossible to break it down or burn it out. The X-Ray work that may be accomplished with this Coil will compare favorably with that of any coil, anywhere near the same price. The current given is of high voltage, large quantity and of high frequency, but not as high as either the Jackson or the Cyclone coils.

For either X-Ray work or high frequency, a rheostat should be used to regulate the current.



THE KINRAIDE HIGH FREQUENCY COIL — ALTERNATING CURRENT

The Kinraide Coil	\$130.00
(Direct and alternating currents of all voltages from 110 to 250)	
500-volt Coils, extra	20.00
Alternating Current Coil and Ultra combined	175.00
Rheostat	8.00

LIST OF OUTFITS

OUTFIT NO. 33. For Direct Current.
Code word, Unpublic.

One Direct Current Kinraide Coil	\$130.00
Two Tubes, Type K	24.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One Floor Tube Stand	10.00
One Rheostat	8.00

\$182.00

OUTFIT NO. 34. For Alternating Current.
Code word, Vestifluam.

One Alternating Current Kinraide Coil	\$130.00
Two Tubes, Type H	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One Floor Tube Stand	10.00
One Rheostat	8.00

\$186.00

OUTFIT NO. 37. For Alternating Current.
Code word, Timindos

One Alternating Current Kinraide Coil and Ultra Violet Apparatus combined	\$175.00
Two Tubes, Type H.	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One Floor Tube Stand	10.00
One Rheostat	8.00

\$231.00

We recommend the purchase of a set of Vacuum Electrodes, price, \$5.00, with each of the above outfits, also four pounds of X-Ray Foil, price, \$1.00.



The Boston Ultra Violet Lamp

This outfit is mounted on a piece of polished slate and is intended to fasten to the wall. As in the Ultra, iron electrodes are used, with similar results. With this outfit, the patient can hold the lamp by the handle and use the crystal lens as a compressor. Sufficient cable is furnished for all ordinary uses.

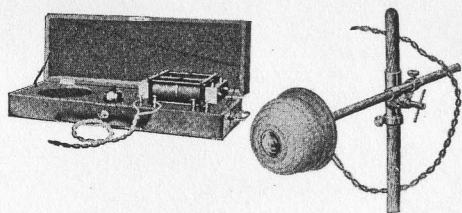
This outfit may be used on any direct current circuit up to and including 250 volts.

Code word, Eligam	Price, \$30.00
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Ultra Violet Effects

The Ultra shown below generates the true Ultra Violet rays with but few light rays. We have taken advantage of the fact that condenser currents of high voltage, when used in connection with iron electrodes, will produce the Ultra Violet rays with few light or heat rays.

The lamp is really a diminutive arc, entirely enclosed in a nice nickel case, and having in front a fine rock-crystal lens, which is perfectly transparent to the Ultra Violet ray. Instead of carbons, the electrodes of the lamp are of iron. They are regulated by a small thumb-screw at the back of the lamp, and are very easily adjusted. This lamp may be supported by any available stand. It is, however, designed with special reference to the floor stand illustrated on page 32 of this bulletin.



In connection with this stand, the lamp may be placed at any angle or height, and rotated in any direction with ease. Very little heat is generated and no cooling or coloring device is necessary.

The arc is very rich in invisible Ultra Violet rays, so much so that the eyes must be protected with glasses or some opaque substance at all times when near the lamp.

The cost of running a lamp of this sort is small.

Built for alternating current only.

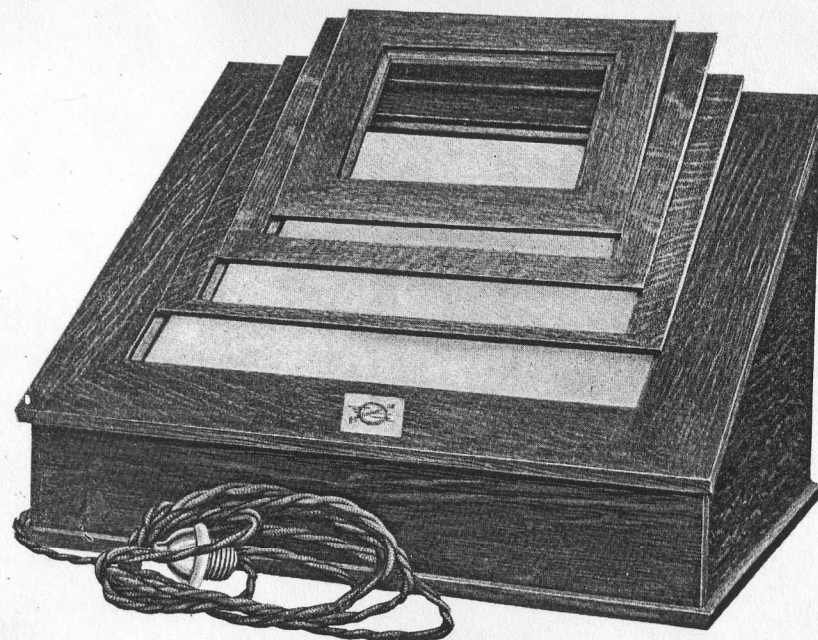
Twelve extra electrodes and full instructions for use go with each lamp.

The lamp which forms a part of this apparatus can be attached to any Kinraide Coil, run on the alternating circuit. It will, however, be necessary to send the coil to our factory in order to have the necessary switches put on and changes made. This can be done without detriment to the working of the coil.

Price complete, as shown in cut, with stand for supporting lamp	\$110.00
Price without stand	100.00
Ultra Lamp, connecting cord, switches, and all necessary attachments fitted to any alternating current Kinraide Coil, new or old	Price, \$50.00

Freight or express charges to be paid by owner of coil.

Illuminating Box



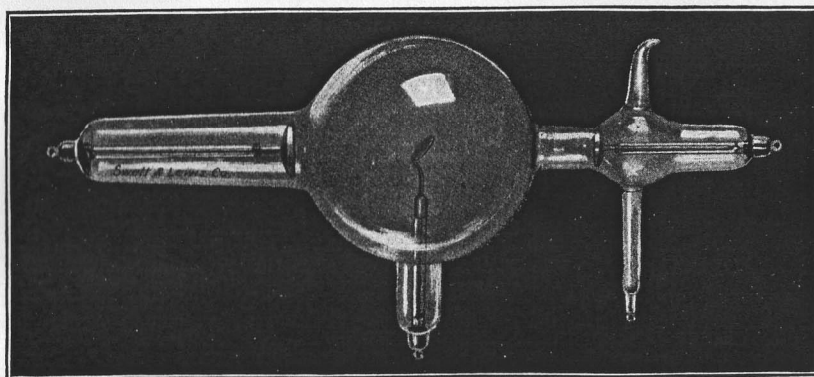
The Box is of quartered oak, nicely finished. A number of frames arranged to take the various sizes of plates are furnished. The inside is enamelled white and a sufficient number of electric lamps are so arranged as to furnish the proper degree of illumination. The top is of ground glass. When viewed in this way, a surprising amount of detail will be shown in an ordinary X-Ray negative.

Code word, Sortance	Price, \$20.00
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X-Ray Tubes

TYPE H. F.

The type H. F. Tube was designed specially for use with high frequency coils, and is a modification of the old Type H, combined with the valve tube so called. The reversed waves are choked back so that the hemispherical effect so familiar to static users is produced. This Tube should be a general favorite, as it is capable of very hard usage. It is recommended for all coils giving an alternating current. The Tube is strongly built, the bulb of good size,



SPECIAL H. F. X-RAY TUBE

and the terminals are well supported, so that they will not break down either in use or during transportation.

Code word, Dejour Price, \$14.00

TYPE K.

This Tube is of good size and shape and is designed for heavy work. The anode is very heavy and is supported on a steel rod. It may be heated to a bright red, and held at this point for a long time without danger of injury to the tube or anode. The definition and penetration are exceptionally good.

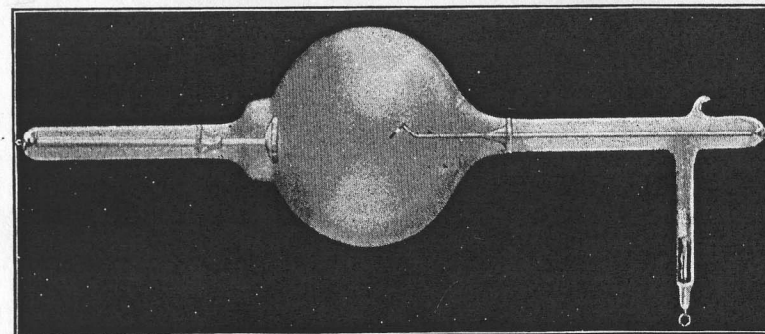
The Tube is fitted with a chemical adjustment, which may be operated either by heat or spark. If too much gas is driven off, it will be re-absorbed, if the Tube is allowed to rest for a short time.

Code word, Delustro Price, \$12.00

X-Ray Plates

A supply of the following sizes always in stock. These Plates are specially wrapped in light proof paper, no plate holder being required for use with the X-Ray.

5 x 7	\$1.40 per dozen.	Code word, Einhergang
6½ x 8½	2.30 per dozen.	Code word, Einhuellen
8 x 10	3.40 per dozen.	Code word, Einimpfen
10 x 12	5.50 per dozen.	Code word, Einjährig
11 x 14	7.00 per dozen.	Code word, Einjagen



TYPE K, FOR DIRECT CURRENT COILS

Tube Stands

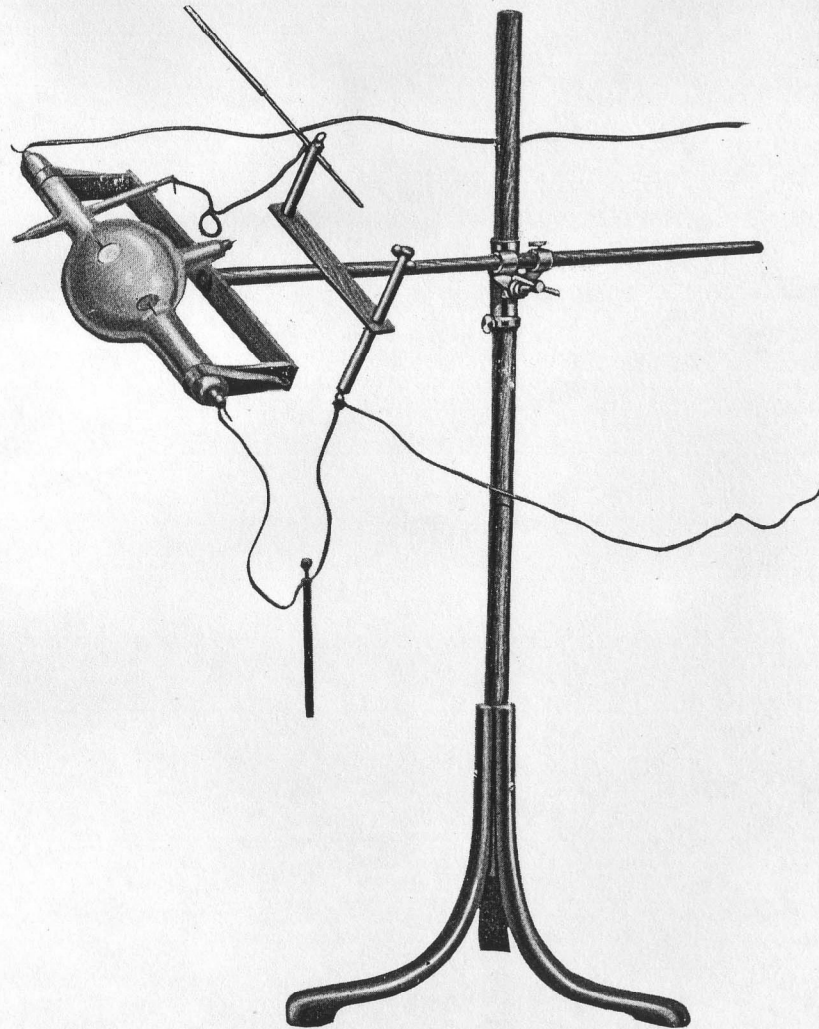
(See cut on page 32)

The Stand shown in the cut is capable of all adjustments. It will hold a tube rigidly in any position and at any height.

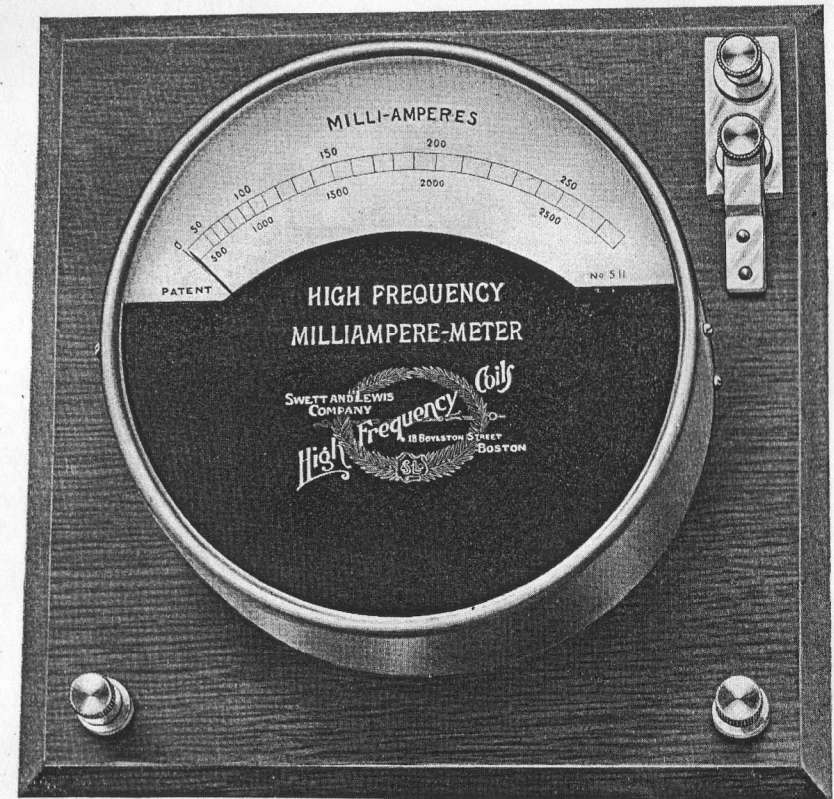
By a new arrangement of connections, the vacuum in an adjustable tube may be held at any desired point without leakage through the adjustment. This is very important, as by the older methods there was a constant leakage which tended to lower the vacuum. This same method of connection is now used on all our stands.

Floor Tube Stand, with Adjustable Spark		
Gap and Pair of Cords	\$10.00.	Code word, Finados
Set of Cords, heavily insulated	1.00.	Code word, Finances
Small Wooden Tube Stand	2.00.	Code word, Finage

Milliamperemeter



TUBE STAND



It has but recently been possible to secure a reliable meter to measure currents of high and other frequencies. The value of an instrument of this sort must be conceded by all. For all-round work, the one illustrated is without a peer. It will record accurately the dosage on any current which a physician may wish to administer, galvanic, faradic, static, high frequency and X-Ray.

The meter has a high and a low scale, the former reading to 2500 milliamperes, and the latter to 250. The case is of beautifully finished brass, and is mounted on an oak base.

Full directions for connecting and operating accompany each instrument.

Code word, Sostegno Price, \$30.00

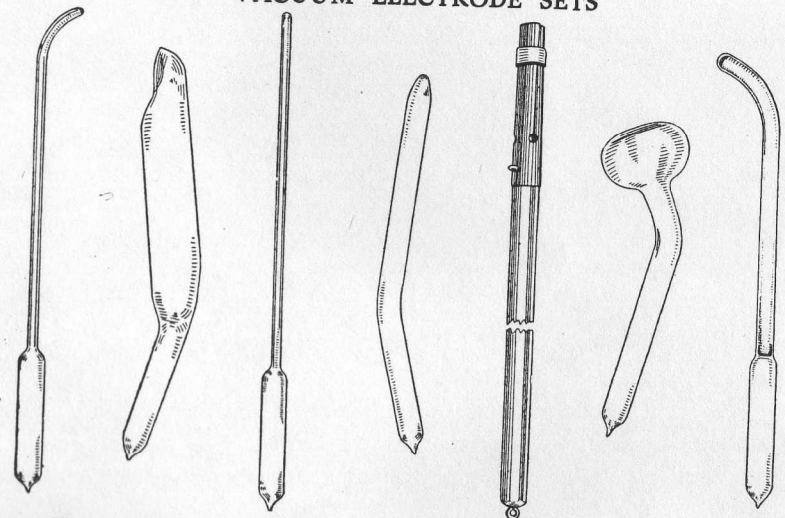
Vacuum Electrodes

These Electrodes are well and substantially made, and are highly colored. They will work on either a coil or static machine.

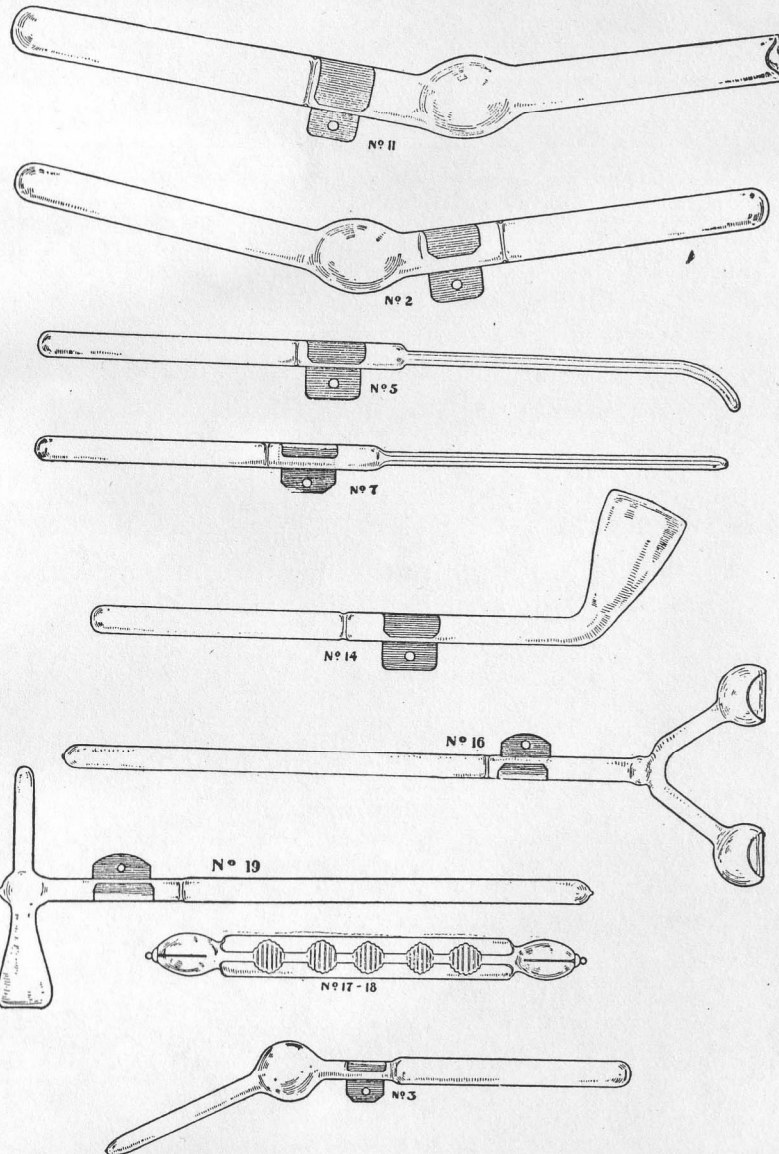
Electrodes Nos. 17 and 18 are especially fine in color effects. In ordering, please specify colors desired. They can be furnished in green, blue, red, or purple.

No. 14	For general application	\$1.50.	Code word, Kræmerin
No. 2	For vaginal application	1.50.	Code word, Kræmpeln
No. 3	For rectal application	1.50.	Code word, Kræmpel
No. 11	For vaginal application, with cupped end	1.50.	Code word, Krænkende
No. 5	For urethral application, with curved end	1.50.	Code word, Krænker
No. 7	For urethral application, straight	1.50.	Code word, Krænklich
No. 15	For eye application	1.50.	Code word, Krænkung
No. 16	Double Eye Electrode	1.50.	Code word, Krätze
No. 19	Hammer Electrode	1.50.	Code word, Krätzig
No. 18	Geissler Electrode, for general tonic treatment	2.00.	Code word, Kourilien
No. 17	(Not so highly colored as No. 18)	2.00.	Code word, Kourgan
No. 1	For use around the spine. Shaped like a tuning fork	1.50.	Code word, Krænseln
One pair Metal Handles and Cords		1.00.	

VACUUM ELECTRODE SETS



For a cheap but substantial set for all-round use, containing all of the most used Electrodes, the one shown in the above cut is recommended.



VACUUM ELECTRODES

The Electrodes are as follows:

	Handle	\$1.00.	Code word, Koulbac
No. 3A	Rectal (without bulb)	1.00.	Code word, Kouler
No. 5A	Urethral, curved	1.00.	Code word, Kouloughli
No. 7A	Urethral, straight	1.00.	Code word, Koumiss
No. 11A	Vaginal, with cupped end	1.00.	Code word, Koupara
No. 14A	General external work	1.00.	Code word, Koupholite
No. 20A	Eustachian	1.00.	Code word, Kourakin
Price for Set and Handle		5.00.	Code word, Koukarien

A firm insulating handle, fitted with a universal coupling, will complete the set.



Fluoroscopes

Platinum Barium Cyanide Fluoroscope, 4 x 5 (code word, Eapse)	\$8.00
Platinum Barium Cyanide Fluoroscope, 5 x 7 (code word, Earshrift)	10.00
Platinum Barium Cyanide Fluoroscope, 6 x 8 (code word, Earthling)	16.00
Platinum Barium Cyanide Fluoroscope, 8 x 10 (code word, Earthly)	24.00



TERMS

Prices in this bulletin are net, except where cash accompanies order, in which case a discount of five per cent will be allowed.

In case of C. O. D. shipments, where a draft of twenty-five per cent of bill accompanies order, the same discount may be taken.

Remit by express or post-office money order or by New York draft. Add twenty-five cents to face of all checks, except on New York or Boston, to cover collection charges.

REFERENCES

Customers unknown to us must give satisfactory references, send draft with order, or we will ship C. O. D., charges for return of money to be borne by purchaser.

Goods will be delivered f. o. b. freight or express, Boston, Mass. No charge for packing. Each piece of apparatus is carefully packed and no allowance will be made for loss or breakage in transit.

Western Union Telegraph code used. Telegraph and cable address, "Swettxray."

When in Boston, we shall be glad to have you make your headquarters at our office.